Multi-centre audit of assessing appropriateness of primary care referrals for MRI knee in elderly (over 60yrs)

1Sabrina Alam, 2Ahmed Rizk, 2Rahij Anwar, 1Amit Shah, 2Tauseef Ashraf, 3Rajesh Botchu
1Leicester Royal Infirmary, Leicester, 2Pilgrim Hospital, Boston, 3Royal Orthopaedic Hospital, Birmingham

BACKGROUND

MRI of knee is the choice of investigation for knee pain1 in cases of suspected meniscal or ligamentous injury. However, in primary care setting and in absence of trauma, degenerative disease is the primary cause (78-80%) in elderly patients (>60yrs)1. A thorough patient history and physical examination, combined with plain radiograph (XR) can avoid unnecessary MR scans2, III, IV.

We performed a retrospective audit to evaluate the appropriateness of MR knee referrals in elderly patients (>60yrs) from GPs in a District General Hospital2 (Boston), a University Teaching Hospital3 (LRI) and a Specialist Musculoskeletal Hospital3 (ROH).

METHOD

Retrospective review of 50 consecutive MRI knee referrals for patients >60 yrs old, initiated by GP between September - December 2015 at each centre.

Local CRIS and PACS were accessed for MR request information and MR & XR reports. Patients with history of trauma and suboptimal scan were excluded.

Any MR reports with moderate or severe osteoarthritic changes were considered inappropriate, particularly in the absence of prior XRs.

RESULTS OF 1ST AUDIT CYCLE

The age and sex distribution of the cohorts in three centres were comparable.

<table>
<thead>
<tr>
<th></th>
<th>Mean age (yr)</th>
<th>Age Range (yr)</th>
<th>M:F</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROH</td>
<td>66.0</td>
<td>60 - 84</td>
<td>1.6:1</td>
</tr>
<tr>
<td>LRI</td>
<td>68.0</td>
<td>60 - 87</td>
<td>1:1</td>
</tr>
<tr>
<td>Boston</td>
<td>67.8</td>
<td>60 - 82</td>
<td>1.2:1</td>
</tr>
</tbody>
</table>

MRI requests were inappropriate in 40 – 62% of cases. Amongst the inappropriate MRI requests, a further 25 - 85% of cases did not have prior knee XR. It appears that the number of inappropriate MRI requests are lower, if patients had prior knee XRs. The appropriate MRI scans showed mild degenerative changes in approximately third of cases and a further third had degenerative meniscal tears.

1ST CYCLE AUDIT ACTION PLAN

• Locals protocols for knee MRI scans in this age group needs to be revised in conjunction with primary care and orthopaedic team.

• Changes to Performa for MRI knee requests, to prompt clinicians to document previous XR findings, with aim to re-audit in 1 year time.

REFERENCES

2. Prevalence of abnormalities in knees detected by MRI in adults without knee osteoarthritis: population based observational study (Framingham Osteoarthritis Study). BMJ 20123456359